Problem of the Week
Problem A
Rearranging Rectangles

Ravi arranges identical square tiles to form rectangles using the following rules:

1. Tiles must line up exactly without any gaps or overlaps.
2. The width of each rectangle must be larger than its height.

Using 6 tiles, Ravi can form two different rectangles. The first has a width of 6 and a height of 1, and the second has a width of 3 and a height of 2, as shown.

- [Diagram of two rectangles formed with 6 tiles]

(a) Draw all the rectangles Ravi can form with 15 square tiles.
(b) Draw all the rectangles Ravi can form with 24 square tiles.
(c) Draw all the rectangles Ravi can form with 17 square tiles.
(d) Can Ravi form more rectangles with 24 square tiles or 35 square tiles? Justify your answer.
(e) **Challenge:** Ravi has some number of tiles less than 100 and is able to form only one rectangle. What is the largest number of tiles that Ravi could have?

**Themes**  Geometry & Measurement, Number Sense